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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,299	06/07/2001	Sanjay Ramakrishna Pillay	1081-CA	9525

31127 7590 03/07/2005

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EXAMINER	
CONNOLLY, MARK A	

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/876,299	PILLAY ET AL.	
	Examiner	Art Unit	
	Mark Connolly	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1 and 3-8* is/are allowed.

6)☒ Claim(s) *9-11,14-18 and 20* is/are rejected.

7)☒ Claim(s) *12,13 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *20 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 and 2-20 have been presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 9-11, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins et al [Jenkins] US Pat No 6668318 in view of Watts, Jr et al [Watts] US Pat No 6633988.

4. Referring to claim 9, Jenkins teaches the invention substantially including:

a. processing a selected block with the processor in response to a processor clock of a selected frequency [col. 1 lines 49-51 and col. 2 lines 30-38].

In summary, Jenkins teaches operating the processing engine at a minimum processing speed by reducing the speed of the processing engine. Reducing the processing speed inherently distributes processor loading over a period of time. Although Jenkins teaches monitoring the demands on the processing engine, Jenkins does not explicitly teach estimating processor loading. In addition, Jenkins also does not explicitly teach selectively changing the frequency of the processor in response to the estimation.

Watts explicitly teaches, continuously monitoring the processing engine by estimating processor loading in order to reduce processor idle time [Abstract, Fig. 1, col. 6 lines 3-5 and col. 12 line 61-col. 13 line 5]. Making an assumption to determine the CPU activity level is

interpreted as estimating processor loading. Because the CPU activity level is estimated in real time, it is interpreted that the estimation occurs during the processing of data blocks [col. 1 lines 15-20]. It would have been obvious to include the activity level calculating means taught in Watts into the Jenkins system because Watts teaches that it will help reduce the amount of idle time experienced by the processing engine.

5. Referring to claim 10, Watts teaches calculating the time a processor is active vs. a time the processor is inactive thus determining the duty cycle of the processor within a period of time [col. 6 lines 3-5]. Although Watts does not explicitly teach how the times are calculated it is obvious that the times could be calculated by counting a number of clock periods.

6. Referring to claim 11, there are many different methods known in the art to generate lower speed clocks including dividing a high-speed clock into lower speed clocks. It is obvious that this method could be used in the Jenkins-Watts system and that the lower speed clocks could be gated in order to reduce the processing speed of the processing engine.

7. Referring to claim 16, 18 and 20, these are rejected on the same basis as set forth hereinabove. It is well known that computer processors can process blocks of audio data.

8. Referring to claim 17, multiprocessors composed on a single chip are well known in the art. It is obvious that the Jenkins-Watts system could be applied to those chips as well.

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins and Watts as applied to claims 9-11, 16-18 and 20 above, and further in view of Felts, III et al [Felts] US Pat No 6581164.

10. Referring to claim 14, the Jenkins-Watts system does not explicitly teach detecting underflow conditions in the processor and selectively increasing the frequency of the processor clock in response to an underflow condition. In summary, the Jenkins-Watts system does not teach increasing a clock speed in order to overcome an underflow condition. Felts teaches monitoring "fullness" in order to adjust clock frequencies and overcome underflow conditions [col. 15 lines 28-39]. It would have been obvious to one of ordinary skill in the art to modify the Jenkins-Watts to increase the operating frequency supplied to the processing engine when an underflow is detected because it would ensure that the processing engine would not operate too slowly but still maintain "the minimum processing speed required to robustly run" [Jenkins col. 1 lines 49-52].

11. Referring to claim 15, Felts teaching monitoring a dipstick [fig. 11].

Allowable Subject Matter

12. Claims 1 and 3-8 are allowed.

13. Claims 12-13 and 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

14. Applicant's arguments filed 29 December 2004 have been fully considered but they are not persuasive.

15. In the remarks, applicants argued in substance that (1) Jenkins does not teach or suggest a method of noise control (2) Watts does not teach or suggest techniques for noise control (3) Watts does not teach or suggest estimating the process loading during processing of a selected

block and then varying the clock frequency to distribute the loading across the processing period of a block.

16. In response to arguments (1) and (2), the recitation "A method of reducing noise" in claim 9 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In addition, the recitation "to reduce noise" in claim 16 has also not been given patentable weight because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

17. In response to argument (3), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Jenkins-Watts system teaches estimating processor loading during the processing of a data block and varying the clock frequency to distribute the loading as explained above. Jenkins teaches operating the processing engine at a minimum processing speed by reducing the speed of the processing engine [col. 1 lines 49-51 and col. 2 lines 30-38]. Reducing the processing speed inherently distributes processor loading over a period of time. Watts teaches continuously monitoring the processing engine by estimating processor loading in order to reduce processor idle time [Abstract, Fig. 1, col. 6 lines 3-5 and col. 12 line 61-col. 13 line 5]. Making an assumption to determine the CPU activity level is interpreted as estimating processor loading. It would have been obvious to include the activity level calculating means taught in Watts into the Jenkins system because Watts teaches that it will help reduce the amount of idle time experienced by the processing engine.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
March 3, 2005

THOMAS LEE
PATENT EXAMINER
CENTER 2100